

**SUPERCRITICAL COMPOSITIONS FOR REMOVAL
OF ORGANIC MATERIAL AND METHODS OF USING SAME**

Abstract of the Disclosure

5 A method for removing organic material in the fabrication of structures includes providing a substrate assembly having an exposed organic material and removing at least a portion of the exposed organic material using a composition having at least one component in a supercritical state. The composition includes an oxidizer selected from the group of sulfur trioxide (SO_3), sulfur dioxide (SO_2), nitrous oxide (N_2O), NO, NO_2 , ozone (O_3), hydrogen peroxide (H_2O_2), F_2 , Cl_2 , Br_2 , and oxygen (O_2). For example, the exposed organic material may be selected from the group of resist material, photoresist residue, UV-hardened resist, X-ray hardened resist, carbon-fluorine containing polymers, plasma etch residues, and organic impurities from other processes. The at least one component in a supercritical state may be an oxidizer selected from the group of sulfur trioxide (SO_3), sulfur dioxide (SO_2), nitrous oxide (N_2O), NO, NO_2 , ozone (O_3), hydrogen peroxide (H_2O_2), F_2 , Cl_2 , Br_2 , and oxygen (O_2); preferably sulfur trioxide. Further, the composition may include a supercritical component in a supercritical state selected from the group of carbon dioxide (CO_2), ammonia (NH_3), H_2O , nitrous oxide (N_2O), carbon monoxide (CO), inert gases (e.g., nitrogen (N_2), helium (He), neon (Ne), argon (Ar), krypton (Kr), and xenon (Xe); preferably carbon dioxide. Further, organic material removal compositions for performing such methods are provided.

"EXPRESS MAIL" MAILING LABEL NUMBER: EUD47403054115

DATE OF DEPOSIT: AUGUST 28, 1998
I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE
UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSES"
SERVICE UNDER 37 CFR 1.10 ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO
THE ASSISTANT COMMISSIONER FOR PATENTS.
WASHINGTON, D.C. 20231

PRINTED NAME Jill R. Price

SIGNATURE JILL R. PRICE